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Climate and National Security: Securing Better Forecasts

Project Details: The Office of Naval Research served as an important donor to a symposium held June 21-23, 2010 at the Scripps Institution of Oceanography entitled "Climate and National Security: Securing Better Forecasts". The Principal Investigator was Reno L. Harnish III, Ambassador (ret.) and Director of the Center for Environment and National Security.

The symposium was attended by senior policy makers and distinguished scientists. The juxtaposition of these communities was creative and fruitful. They acknowledged they were speaking past each other. Scientists were urged to tell policy makers about even improbable outcomes while articulating clearly the uncertainties around the outcomes. As one policy maker put it, we are accustomed to making these types of decisions. These points were captured clearly in an article that appeared on the New York Times website and can be found with other conference materials most easily on our website, www.scripps.ucsd.edu/cens/. The symposium, generously supported by the Office of Naval Research, benefitted the public by promoting scientifically informed decision making and by the transmission of objective information regarding climate change and national security.

Research Objectives and Specific Plans: Our objective was to move investigators to recognize and engage with national security problems and to move national security policy makers to incorporate climate change science in their decision making. Our working hypothesis was that national security policy makers were hampered by lack of data that was useful in terms of geographic and temporal resolution. We structured the symposium to devote the first half day to the physical impacts of climate change and the second half day to the national security impacts of climate change. We expected to see a synthesis in the third half day session entitled "Ensuring Better Forecasts".

Research Accomplishments and Highlights: We heard from both communities at the outset. Dr. Walter Munk, arguably the most distinguished ocean scientist alive and winner of the Crafoord Prize spoke on new directions in our understanding of how massive ice sheets melt. Joining us by video conference, Shere Abbott, Office of Science and Technology of the President, Associate Director for Energy and the Environment laid out the Administration's priorities for climate change policy and research.

The symposium was by invitation only and nearly 200 participated in the three day event. Among them were former NOAA Administrator Conrad Lautenbacher, Head Ocean Battlespace Sensing, Office of Naval Research Dr. Frank Herr, Scripps Researchers Dr. David Pierce, Dr. Helen Fricker, Dr. Josh Graff Zivin, and Dr. Dan Cayan, U.S. Navy Oceanographer Admiral David Titley, and US Department of Defense, Deputy Assistant Secretary Amanda Dory.

The symposium produced an unexpected accomplishment. Dr. Jay Gulledge gave a talk on "A Policy Frame for Climate Prediction". Three points were incendiary. He stated that: risk is great for high impact outcomes even if probability is low; decision makers should seek information on risk not uncertainty; when working to inform decisions, scientists should assess risk rather than the state of science. The reaction of the participants was split between those who felt climate science has not adequately penetrated decision making, those who have served in policy roles, who felt that scientists

were unlikely to give them the risk information they wanted and a third group of scientists who defended the notion that they should stick with a presentation of scientific results with all uncertainties plain to see. A heated discussion proceeded for one and one half hours.

Products developed: Dr. Jay Gulledge's talk prefigured the work that would appear eight months later in February 2011 as "Risk Management and Climate Security", supported by E3G. The Symposium laid the ground work for further CENS research. Witness our proposal to the Strategic Environmental Development Program on combining climate change scenarios with decision support systems to provide installation managers the data they need to make climate adaptation decisions.

Another product was a **pamphlet entitled "Climate Change, Multiplying Threats to National Security"**. The pamphlet was developed by a number of graduate students who helped run the symposium as one element of their NSF IGERT fellowship. The IGERT fellows intend to use the pamphlet during a planned visit to Washington D.C. to share their findings with Administration and Capitol Hill figures.

We had good press coverage of the event. Scientific American and New York Times story by Lauren Morrello, La Jolla Light, San Diego Reader, a number of television interviews including the local affiliate of CBS and KUSI Channel Nine. The public interest and news worthy character of the symposium might have been enhanced by the presence of AB 23 on the California State ballot, calling for the postponement of California's cap and trade system until strict economic requirements were met.

Collaboration and International participation: UK Met Office, Hadley Center is very active in the area of climate change scenarios. Dr. Vicky Pope provided a sophisticated counter point to the US discussion of models. Air Marshall A.K. Singh, Chairman of the Military Council on Climate Change, Institute for Environmental Security and Executive Director Manila Observatory, Antonia Yula Loyzaga formed the final panel on the first day and were able to ground our discussion in the politics and events of Asia. Chinese Academy of Social Sciences and East West Center, Dr. Zhong Xiang Zhang provided a Chinese view on the UNFCCC negotiations. Chairman Divecha Center for Climate Change Indian Institute for Science Jayaram Srinivasan presented an Indian view of the impacts of Global Climate Change. The Director of the European Centre for Public Affairs Tom Spencer argued for more aggressive public affairs campaigns to inform the public of risks from climate change. In other words, the international participation resulted in themes that otherwise would not have been touched.

Aside from the Office of Naval Research, other donors to this symposium were the National Oceanic and Atmospheric Administration, the Department of Energy, the Oceanographer of the Navy and the CSC corporation.